Name: HW 15

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Geometry, Period

Due Date: Fri, 19 Sep 2014

**Geometry**

**Homework**



**Failure to show work and write in complete sentences will result in a LaSalle. Answers should be boxed.**

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| Use the number line below to answer questions 1 – 4. | |
| 1. Use absolute value to demonstrate that the distance, in coordinate units, between points *A* and *B is 3*: | 2. Use absolute value to calculate the distance between points *B* and *E*: |
| 3. Use absolute value to show how much longer is *AD* than *BE*. | 4. Use absolute value to show how much longer is *CD* than *DE*. |
| Use the description of the points to answer questions 5 – 6. You may check your work using a number line, but you must *show your calculations using* ***absolute value***.    *Point W is 3, X is –5, Y is –16, and Z is 11.* | |
| 5. What is the distance, in coordinate units, between points *W* and *Z*? | 6. What is the distance, in coordinate units, between points *Y* and *Z*? |
| 7. How much longer is *WY* than *XZ*? | 8. How much longer is *YZ* than *WX*? |

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| 9a. On the number line below, show the two points that demonstrate |x| = 7, meaning “the absolute value of x is 7” or “x is 7 away from 0”.  http://www.algebra-class.com/images/numberline.gif  9b. Write the solution set to |x|=7: {\_\_\_\_, \_\_\_\_}  9c. What is the difference between the two possible values for x? \_\_\_\_\_. Explain why this is the answer using the number line: | |
| 10a. Which of the following absolute value equations describes the number line below? Explain why.   1. |x – 4| = 1 2. |x – 1| = 4 X~~1~~ (4) (4) X2   http://www.algebra-class.com/images/numberline.gif | |
| 10b. How would you describe this situation in words? | 10c. What is the difference between the two values of X (5 and -3)? Demonstrate this using an algebraic equation.  10d. How does this relate to the original absolute value equation? |
| 10a. On the number line below,show the two possible points for x on the number line for the equation |x – 3| = 7:  http://www.algebra-class.com/images/numberline.gif  10b. Using the number line, demonstrate how this equation means “x is 7 units away from 3.” | |
| 10c. Demonstrate that this works logically (algebraically): | 10d. Write the solution set to |x – 3| = 7: {\_\_\_\_, \_\_\_\_}  10e. What is the difference between these two possible values for x? |
| 11a. Assume that **|x – a| = b**. Express this in words: | 11b. Show this on a number line: |